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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KANG, PAUL H

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/774,204

Applicant(s)

SINGAL ET AL.

Examiner

Paul H Kang

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 . 6) ☐ Other: _____

Art Unit: 2141

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben-Shaul et al., US Pat. App. Pub. No. US 2002/0010798 A1, in view of Sen et al., "Proxy Prefix Caching for Multimedia Streams," IEEE, 1999.

2. As to claims 1 and 12, Ben-Shaul teaches the invention substantially as claimed. Ben-Shaul teaches a method and computer program product for delivering media objects across a communication network comprising multiple edge server computers controllably connected to client computer and at least one origin server computer, the method comprising the steps of:

storing said media object on said origin server computer;

storing a prefix on at least one edge server computer (Ben-Shaul, [0340]-[0357]).

However, Ben-Shaul does not explicitly teach storing a prefix on at least one edge server computer, said prefix comprising a beginning portion of said media object;

transmitting said prefix from said edge server computer to at least one client computer;

transmitting said media object from said origin server computer to said edge computers in response to said transmitting of said prefix to said client computers; and

transmitting to said client computers said media object subsequent to said prefix such that transmission of said prefix and said media object is delivered to said client computers without interruption.

In the same field of endeavor, Sen teaches a system and method for proxy prefix caching for multimedia streams comprising storing a prefix on at least one edge server computer, said prefix comprising a beginning portion of said media object (see Sen, section I (Introduction) and sec. II (Prefix Caching));

transmitting said prefix from said edge server computer to at least one client computer (see Sen, section I (Introduction) and sec. II (Prefix Caching));

transmitting said media object from said origin server computer to said edge computers in response to said transmitting of said prefix to said client computers (Sen, sec. I); and

transmitting to said client computers said media object subsequent to said prefix such that transmission of said prefix and said media object is delivered to said client computers without interruption (see Sen, section I (Introduction) and sec. II (Prefix Caching)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the proxy prefix caching as taught by Sen, into the multimedia delivery system of Ben-Shaul, for the purpose of reducing playback delay associated with large multimedia files.

3. As to claim 2, Ben-Shaul-Sen teach the method wherein said media object is transmitted from said origin server computer to said edge server computer in parallel (Ben-Shaul, [0019]-[0037] and [0340]-[0357]).

4. As to claims 3-5, Ben-Shaul-Sen teach the method wherein said prefix is distributed to said edge server computer based on anticipated demand, measured usage, connection between said origin server computer and said edge server (Ben-Shaul, [0019]-[0037]).

5. As to claims 6 and 7, Ben-Shaul-Sen teach the method wherein said media object is referenced by a URL (Sen, Sec. II(a) Internet Performance Characteristics).

6. As to claim 13, Ben-Shaul-Sen teach the computer system wherein said origin server computer contains said media object in multiple file formats (Ben-Shaul, [0056]-[0083]).

7. As to claims 14-18, Ben-Shaul-Sen teach the computer system wherein said a media streaming module, media management module, and media distribution modules are included in said origin server computer or said edge server computer (see Sen, section I (Introduction) and sec. II (Prefix Caching)).

8. As to claims 8, 9, 10 and 11, Ben-Shaul-Sen teach a method and computer program product for streaming media objects over a computer network to a user, the network having at least one origin server and at least one edge server, the method comprising the steps of:

receiving a user request for delivery of a media object (Ben-Shaul, [0019]-[0037]);

if the media object is fully stored on the edge server, then streaming the media object to the user (Ben-Shaul, [0019]-[0037] and [0340]-[0357]);

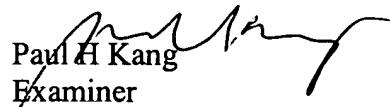
if the media object is partially stored on the edge server, then streaming a prefix of the media object to the user while simultaneously fetching the suffix of the media object from the origin server, then streaming the suffix such that no interruption in streaming occurs between streaming the prefix and streaming the suffix (see Sen, section I (Introduction) and sec. II (Prefix Caching)), and

if the media object is not stored on the edge server, fetching a sufficient portion of the media object, then begin streaming the sufficient portion while the remaining portion of the media object is fetched, and streaming the remaining portion after the sufficient portion has been streamed such that no interruption in streaming occurs between streaming the sufficient portion and streaming the remaining portion (see Sen, section I (Introduction) and sec. II (Prefix Caching)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul H Kang whose telephone number is (703) 308-6123. The examiner can normally be reached on 9 hour flex. First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (703) 305-4003. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Paul H Kang
Examiner
Art Unit 2141